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MANNING THE READY RESERVE FORCE: A STUDY OF THE AVAILABILITY OF U.S. MARITIME LABOR TO MAN THE READY RESERVE FORCE

by

Mary Theresa Winger

December 1985

Thesis Advisor: M. J. Eitelberg

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Manning The Ready Reserve Force: A Study of The Availability of U.S. Maritime Labor to Man The Ready Reserve Force

by

Mary Theresa Winger
Lieutenant, United States Navy
B.S.I.M., Purdue University, 1978

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

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December 1985

ABSTRACT

This thesis studies the U.S. maritime labor force as it affects the manning of the Ready Reserve Force (RRF). The focus is on the reasons for the periodic variations in the labor supply within the U.S. maritime industry. The amount of labor that will be needed to man a fully-activated RRF is compared with the amount of labor predicted to be available to the RRF and the commercial world. The RRF will require about 16 percent of the predicted available labor force. Shortages are bound to occur, especially in light of past history. Recommendations to minimize the amount of shortages include: instituting better union personnel management practices; assignment of personnel on a nationwide rather than local basis, and pooling of union resources to meet emergencies. It is also recommended that DOD develop its own backup source of officers to man RRF ships through an extended Merchant Marine Reserve program.

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I. INTRODUCTION

A. BACKGROUND

An important part of the strategic sealift inventory is the Ready Reserve Force (RRF). During emergency situations there are three sources of defense surge shipping: Military Sealift Command (MSC) vessels, the voluntary charter of U.S. flag commercial vessels, and the RRF. It is anticipated that there will be a total of 116 ships in the RRF by 1991. These ships will require crews of about 40 people each, utilizing a total of approximately 5000 seamen. These ships are maintained in five-, ten-, and twenty-day states of readiness to provide required sealift in emergency situations. The RRF ships will be manned by merchant seamen.

B. STATEMENT OF THE PROBLEM

The U.S. maritime industry has been experiencing a steady decline since World War II. The loss of U.S. flag ships and fewer billets on what new U.S. vessels are put into service have provided consistently less opportunity for employment of merchant seamen. Most of the industry labor force is aging, and the jobs are not available to bring younger people into the industry [Ref. 1:p. 9]. In 1984, there were only 34,000 U.S. merchant seamen making a living at sea. This number is expected to decline by about 3000 people over the next six years.

The numbers of people that are required to man the RRF ships is rising as the number of people available to man them is declining. RRF ships do not provided a source of steady employment to the maritime industry because they are manned only when they are activated. Personnel to operate the ships must come from an industry whose workforce is shrinking.

The seamen who will man the RRF ships are obtained through U.S. steamship agents who have signed General Agency Agreements (GAA) with the U.S. government. The agents are responsible for manning, provisioning, repairing and general operating of the ship(s) they have under contract. Presently, there are no requirements for the agents to place priority on the manning of the GAA vessels for which they are responsible. Nor is there any requirement that the men they provide be familiar with the operation of a particular RRF vessel or its gear.

The decrease in the numbers of skilled mariners in the industry raises the possibility that there may not be enough seamen available to man the RRF ships when they are required in an emergency situation. The issue of adequate manning for RRF ships is the central focus of this study.

C. METHODOLOGY OF THE STUDY

The maritime labor force is unique in that employment only occurs under Ship's Articles (Articles). Data gathering to determine the number of workers in the labor pool is done by taking an inventory of the workforce under Articles.

Copies of all Articles are maintained by the U.S. Coast Guard. Data are extracted from the Articles by the Maritime Administration to be used for workforce size estimates. This method of accounting for workers makes attrition and entry data impossible to ascertain.

In an effort to obtain more accurate data concerning entry and exit to the industry, as well as an actual count of seafarers available, letters were sent to the unions who have contracts with the general agents for the RRF ships. These letters requested information on union membership--size, entry and exit data, training for members, average age of members, and future changes anticipated. Only one-third of those letters were answered. This lack of information led to the reliance on the data used by MARAD which essentially represents a "best guess" of the future workforce supply for the industry.

The union letters, as well as letters sent to the steamship agents responsible for the RRF ships, requested information concerning procedures that are established for the manning of the RRF ships.

In order to gain some feel for the manning problems encountered during Vietnam, the most recent use of GAA vessels, the letters also requested information on problems that may have been encountered manning GAA ships during the Vietnam conflict. The answers received to these questions appeared to be contradictory to the government statistics

compiled for that time period. Copies of the letters requesting the information and the responses received are provided in Appendices A and B.

Telephone interviews were conducted with personnel in the Maritime Labor and Training Office of the Maritime Administration, the Strategic Sealift Division (OP-42) of the Chief of Naval Operations, the Operations Research Division (C-A2) of the Supreme Allied Command, Atlantic, the Merchant Marine Reserve Program Office of the Chief of Naval Reserves,and the Harry Lundeberg School of Seamanship.

Archive research provided little data on the subject of the RRF but a great deal on the job shortages and the resulting decline in manpower in the maritime industry.

D. LIMITATIONS

The nature of the data collection techniques for this industry and the unwillingness, or inability, of the unions to fill the information gaps with data that only they possess, severely limited the analytical capabilities of this study. The size of the maritime manpower pool during peacetime has never been a major issue before and the methods for capturing the actual size of the manpower pool and its attrition and entry data have not been developed. Data received from different sources concerning the same topic are often contradictory. Because of the methods used for manpower assignment by the unions it is doubtful that even they are capable of providing these data at the present time.

E. CONTENTS

The manning problems that must be faced by the RRF are a result of the history of the maritime industry. Government involvement as well as the actions of those in the maritime industry were all contributors to today's U.S. maritime situation. Chapter II provides a brief overview of that history. Chapter III looks at the maritime labor force of today: who controls it, what laws govern it, training opportunities, and how all these factors combine to provide the labor force that will be available for the RRF. Chapter IV discusses the RRF, including its manpower needs and its reasons for existence. Chapter V provides an analysis of the alternatives available to provide adequate manning for the RRF. Chapter VI presents the conclusions of the study and recommendations on how to best approach solving the RRF manning problems.

II. A BRIEF HISTORY OF THE U.S. MERCHANT MARINE

A. INTRODUCTION

The RRF will be manned by merchant mariners. The availability of these merchant seamen determines whether or not the RRF will accomplish its mission. The labor supply of the industry is governed by the number of ships available to provide jobs. Unfortunately, the maritime labor supply has been in an almost constant state of decline since just before the Civil War. Today's U.S. maritime industry and the status of its labor force are the results of a long history of government action followed by government neglect. It is not possible to fully understand why labor might be in short supply to man RRF ships without a background in what events led the U.S. maritime industry to its present status.

B. THE FIRST GROWTH PERIOD

Abundant, easily accessible timber along the eastern seaboard made shipbuilding a natural industry for the American colonists. Shipyards were easily established as little capital investment was required. Ships built in the colonies were so inexpensive, compared to those built in England, that by the time of the American Revolution, one-third of all British flag shipping was provided by American shipyards [Ref. 2:p. 17].

The American colonies had no manufacturing capabilities and British law did not allow any to be imported to the country. Maritime activities were considered an acceptable source of income for the colonists because the income provided by shipping was spent for British manufactured goods, and having British-American ships at sea provided a training ground for seamen. These seamen would be useful for British shipping and naval needs.

After the Revolutionary War, American leaders found themselves with a strong merchant fleet but few trade routes. The loss of British citizenship had deprived them of entry rights to the lucrative British trade routes previously enjoyed. To deal with this problem, a provision was included in the U.S. Constitution that international and interstate trade would be regulated by the national government.

One of the initial steps taken by the first Congress to support this responsibility was the passage of the Tariff Act of 1789. This bill provided import tax incentives for all shippers to ship their goods on American vessels. It also encouraged the ownership of U.S.-built vessels by charging less in U.S. port entry fees to U.S.-built and registered ships. This fee differentiation tended to encourage participation of only U.S.-registered ships in the U.S. coastal trade.

In 1817, Congress formally closed U.S. coastal trading to foreign vessels. By 1795, 92 percent of American imports and

86 percent of American exports were transported on American vessels [Ref. 3:p. 7].

Between 1792 and 1815, Europe was involved in nearly constant warfare. This warfare provided enormous trading opportunities for American businessmen. Neutral American vessels could enter the ports of all warring countries. While involved in war, the merchant fleets of the belligerent countries were mostly used for other than peacetime commercial pursuits. The related abandonment of many of the peacetime trading routes provided American traders with the opportunity to enter those routes as well as develop new routes with virtually no competition.

In 1807, President Thomas Jefferson closed American ports to foreign traders in an effort to force political and economic concessions from the Europeans. His actions had little effect on the European community and were later dropped. Yet, for America the closing of U.S. ports played a major role in influencing domestic attitudes and policies for some time thereafter. Jefferson's foreign trade embargo cost the maritime industry an estimated 55,000 seagoing jobs and 100,000 jobs in related industries [Ref.2:p. 33]. At the same time, approximately $5 million flowed from commerce to industrialization [Ref. 2:p. 34]. Land-based industry grew in economic and political power while drawing investment dollars and workers away from the more hazardous and uncertain maritime industry. Government policies began to change from

those encouraging free-trade to protectionism and by the outbreak of the Civil War, the American government no longer maintained a maritime orientation. The number of ships began to decline and with them the jobs available to a labor force which had already begun to be drawn to the safer, easier jobs ashore.

C. THE FIRST DECLINE

The Civil War contributed further to the labor force decline. During the Civil War, America lost 24 percent of its carrying trade to other flags [Ref. 2:p. 66]. The reasons for this loss are varied and can be equally attributed to both sides in the conflict. Confederate raiders destroyed many of the merchant ships that were flying the Union flag. The Union navy purchased hundreds of sailing and steam-powered vessels from the merchant community, often paying far greater prices than the ships were actually worth. These vessels were subjected to hard use and, by the end of the war, most were not fit to be returned to merchant service. The people who sold their ships to the Union were in no hurry to replace them with U.S. flag ships. Shipyards were too backlogged with war orders to build merchant vessels and there was no real protection from the Confederate raiders. This resulted in skyrocketing insurance rates for U.S. vessels, so many shipowners bought their ships from foreign countries and registered them under foreign flags. They got their ships faster, the Confederate raiders left

them alone, and operating and insurance rates were much lower.

The American maritime industry also lost its shipbuilding advantage during this time period. The once-abundant timber stands along the coast had been depleted and the world was turning to steam-powered, iron ships. U.S. shipyards were to slow to begin building iron-hulled, steam-powered, screw-driven merchant ships [Ref. 2:p. 68]. And when U.S. shipyards finally started turning out the modern vessels, building costs were so high that American operators were driven to buy their ships overseas and operate them under foreign flag. In fact, by 1901, Americans had 136 ships (670,000 tons) registered abroad [Ref. 3:p. 9]. Foreign flag vessels did not require American crews and so even more seagoing jobs drained away from the U.S. sailor. This caused more people to leave the sea for the more stable sources of income found on shore.

Throughout the years after the Civil War, some efforts were made to regenerate the U.S. maritime industry. Many plans were introduced and hotly debated in Congress. Some plans were passed but none were particularly successful. Some were even rocked by scandal and were not tried again for years.

The lack of an adequate U.S. merchant marine was a Congressional issue during the late nineteenth century but there was no urgency attached to resolving the problem. This

failing was dramatically displayed for all the world to see by the sailing of President Theodore Roosevelt's Great White Fleet. The Great White Fleet was sent on a cruise intended to impress the world with the superiority of American naval might and the technology of the new U.S. battleships. Unfortunately, this force had to be fueled by a group of undependable, disreptuable-looking, foreign colliers. There were no American merchant ships available to carry the coal needed by the fleet and, as a result, Roosevelt's Great White Fleet entered every port followed by a rag-tag group of foreign flag support ships. The point was made and more vigorous efforts were taken on the part of the government to revitalize the U.S. maritime industry.

D. WORLD WAR I

World War I provided the first real incentive to the U.S. to rebuild its merchant marine fleet. Ships were built and sailors found to sail them. The manpower shortages that might have occurred did not, probably because of the timing of America's entry into the war and the war's ending.

President Woodrow Wilson arrived in the White House in 1913 with the intent to strengthen America's economic growth and expansion. One part of his program included merchant shipping reform. Wilson's plans for reforming the nation's maritime industry were being presented to Congress as war broke out in Europe. This made his task much easier because

it was immediately apparent to all observers that emergency measures had to be taken.

At the start of World War I, less than 10 percent of America's foreign trade was carried on U.S. ships [Ref. 2: p. 116]. American trading was paralyzed as England, Germany, Italy, and France withdrew their merchant fleets from transatlantic service. What shipping space was available was sold to the highest bidder, and insurance rates for ships and cargo became enormously expensive.

At the same time that shipping out of America became virtually nonexistent, American farmers produced one of the greatest agricultural harvests in history. With no way to export the surplus, prices were depressed and everyone involved with the agricultural community--farmers, bankers, and railroads--became concerned. Intense pressure was brought to bear on the government to do something about the problems faced by the American public.

Congress quickly passed legislation introduced by Wilson for a Bureau of War Risk Insurance and a "free ships" act. The free ships act allowed owners to register foreign ships under the neutral American flag. New ships, both U.S.-owned and foreign-owned, were quickly added to the U.S. registry, and they began to pick up the routes abandoned by those at war in Europe.

In 1914, Wilson also introduced a bill that would grant the national government the right to own and operate a

merchant fleet. This plan met with strong opposition from the private sector. Business saw a government-owned corporation, which was not subject to the laws of supply and demand, as a threat to the free enterprise system. Wilson tried to impress upon Congress the need for a strong merchant marine to act as a naval auxiliary to protect the continued neutrality of the United States. Neither Congress nor the private sector lobbying against this plan were convinced of the soundness of his argument. They believed that the same isolated position that kept America out of the war also eliminated the need for any type of naval auxiliary. Those opposed to Wilson's plan were ultimately successful in their efforts and the bill was tabled for two more years.

In 1915, the sinking of the **Lusitania** with the loss of 128 American lives made it much easier for Wilson to sell his plan for a merchant marine to act as a naval auxiliary [Ref. 2:p. 120]. It was now generally accepted by the public that a strong merchant marine, with a strong navy to protect it, had the ability to preserve America's commercial and political neutrality. Consequently, in August 1916, the Shipping Act of 1916 was passed by Congress and signed into law.

The Shipping Act established a five-member Shipping Board that was allowed to purchase, lease, charter, or build ships for commercial operation by the government. The new agency

had no time to get organized before the U.S. entered the war in April 1917.

The Shipping Board began a massive requisitioning of ships and shipyards as soon as the war began. They forced the charter of many neutral-country ships and commandeered captured enemy vessels into service to carry American supplies overseas. The Board also began a massive building effort in American shipyards, but their efforts were never enough during the war years. Their building effort caused the construction of 1,409 oceangoing ships, the bulk of which, unfortunately, were delivered after the armistice was signed [Ref. 4:p. 5]. As a result, the question of manning these ships during wartime was never raised.

E. THE SECOND DECLINE

After the war, too many ships became a world wide problem. The available labor force was hit by the shipping depression and declined again. The methods used by the ship operators of the day helped lay the groundwork for the militant labor organizations that appeared in the 1930s. The labor agreements that followed the organization of the maritime unions significantly increased the cost of operating American flag ships. This contributed to the decline of the U.S shipping industry and the number of jobs available in the industry.

Despite the massive destruction of shipping during the war, after fighting had stopped the world discovered the

greatest surplus of merchant vessels ever known. Most of the surplus shipping, and the most powerful merchant fleet in the world, was owned by the United States. The U.S., however, had not counted on the intense building and buying efforts that would be put forth by its European Allies to regain their prewar trade status. The surplus of ships and massive efforts to regain prewar trade position combined with the onset of a worldwide recession in the 1920s to help decrease freight rates and send all shipping into a decline.

Most of the surplus U.S. ships were owned by the Shipping Board, and, in compliance with the law that required government ownership of a merchant fleet only in time of emergency, the Board made an effort to dispose of its ships. This task proved to be nearly impossible in the face of the worldwide shipping depression, and the Shipping Board was finally forced to ask Congress for help. After much debate, Congress passed the Merchant Marine Act of 1920. Although ship disposal was the goal of the Merchant Marine Act of 1920, it is more noted for providing the first statement of a national maritime policy that recognized the need for a strong merchant fleet for purposes of commercial advantage and defense. This statement of national policy has remained basically the same since 1920.

One of the most enduring and direct results of the Merchant Marine Act of 1920 was its reaffirmation of cabotage practices. Cabotage reserves all coastal trade, including

trade with offshore possessions, to ships that are U.S. built, U.S. flag, and manned by U.S. citizen crews. This law provides the only stable work environment for a small part of the maritime industry.

Labor also contributed to the decline of the U.S. maritime industry. The Seaman's Act of 1915 provided American seamen with rights when aboard a ship. Prior to this Act, once a sailor signed a Ship's Articles, he was ". . . practically a slave." [Ref. 5:p. 68] The important aspect of this act, for the organization of maritime labor, was its provision that sailors were no longer liable to be imprisoned if they went on strike. From 1915 until the 1920's seamen made great gains in wages and living conditions aboard ship. In the 1920s, as jobs became scarce because of the shipping depression, operators began to cut their operating costs by eroding seamen's wages and benefits. Many seamen felt the operators took unfair advantage of them during this time and a core of resentment built up that was instrumental in determining the types of tactics and demands made by the unions that evolved after the shipping depression.

General U.S. union growth was induced by the National Industrial Recovery Act in 1934 under the Roosevelt Administration [Ref. 6:p. 105]. The maritime unions were no exception and, through their strike efforts between 1934 and 1938, they firmly established themselves as a strong force to

be dealt with in the U.S. maritime industry. The strikes entered into by the maritime unions succeeded in immobilizing shipping operations along the entire west coast for months at a time. Unions would strike because of disagreements with ship operators or with other unions. The maritime unions have a long history of bitter in-fighting that occurred as they fought for more members and job control. While these strikes greatly improved life for seafarers, they ultimately hurt the U.S. maritime industry. Shippers found other means of transporting their cargo and often the cargo did not return to American flag vessels once the strike was over [Ref. 5:p. 70].

In 1936, Congress passed the Merchant Marine Act of 1936. This Act adopted both a nationalist and protectionist approach to U.S. maritime affairs. The Federal Maritime Commission (FMC) was created to replace the Shipping Board which was established in 1916. The FMC was given the power to build and charter ships for operation on essential trade routes when private enterprise could not or would not provide them. The Act also established direct subsidies for ship operators to offset the higher costs of building and operating U.S. vessels. It required subsidized lines to establish building funds to replace their older ships and provided loans and mortgage insurance. A training program for American seamen was also established under the Act.

The Maritime Commission undertook a building program to replace the merchant fleet's old, worn-out ships which were mainly built during World War I. In preparation for this work, shipyards were modernized and new yards were built.

F. WORLD WAR II

World War II is the first time manpower shortages for U.S. vessels are recorded. The maritime industry had been shrinking in size since the end of World War I; World War II required massive building of merchant ships to carry U.S. supplies overseas. The increased need for sailors quickly outstripped the number of trained sailors available. This manpower shortage problem continued to exist until the end of the war.

All of the changes in American shipping policy were taking place while Europe was poised on the brink of war. When the war broke out, U.S. shipyards had such a good reputation that the British government bought many of its ships from the U.S.

The Maritime Commission performed a Herculean task during World War II. They provided more than enough ships for the war effort. This was even after being allowed little preparation or organizational time before the U.S. actually entered the war. During the war, the U.S., through the efforts of the Federal Maritime Commission, built 5,695 merchant ships [Ref. 2:p. 178].

Manning merchant ships during World War II proved to be a bigger problem than obtaining ships. Before the war began, there were approximately 60,000 men and officers serving in the U.S. merchant marine [Ref. 2:p. 195]. At the beginning of the war, the merchant marine suffered heavy casualties. Six months into the conflict, 350 ships with over 3,000 merchant seamen on board were lost [Ref. 2:p. 199]. These losses, combined with the fact that in the early days of the war delayed ship sailings due to manpower shortages were averaging about 45 a month, caused the War Shipping Administration and the unions to quickly institute recruiting and training programs [Ref. 2:p. 195]. Over 200 training centers were established throughout the U.S. to train merchant seamen [Ref. 2:p. 197].

Militarization of the U.S. merchant marine, a measure that had been adopted by Great Britain, was proposed but never instituted. Large war bonuses and a massive advertising campaign for merchant mariners were utilized instead. Unfortunately, the problems of recruiting and training personnel and the manning of U.S. merchant ships during the war was never suitably resolved.

G. THE THIRD DECLINE

After World War II, the U.S. government sold more than 2,000 of its 4,500 merchant ships [Ref. 3:p. 17]. These were sold first to American citizens, then to the Allied countries and finally, on a limited basis to those defeated during

World War II. About 1,400 of the remaining ships were placed in the U.S. National Defense Reserve Fleet (NDRF) for purposes of emergency mobilization. The NDRF would now be the extra shipping capability needed to support emergency needs. The number of ships in the NDRF was known, the number of people needed to man them could be calculated, yet no efforts were made to insure that there were people available in the industry to man the ships. The U.S. maritime industry was once again cut adrift by the U.S. government to fend for itself in the world maritime environment. The numbers of ships have declined and with them the number of jobs available to an ever decreasing labor force.

American ship operators soon found themselves competing against nationalized foreign competitors and lower-cost private foreign companies. Many American operators again resorted to the practice of registering their vessels under foreign flags. This helped to decrease their operating and acquisition costs, as well as provide them with greater operating flexibility and tax advantages. As the ships drained away to flags of convenience countries, so too did the jobs for U.S. merchant seamen who were manning them.

One way U.S. operators try to compete with their international competitors is by holding down their capital acquisition costs for as long as possible. Because of the expense involved in replacing old ships in the U.S., American companies use their ships longer than the rest of the world.

Thus, while the rest of the world maritime community was moving to bigger, more energy efficient, diesel vessels, American operators were still using steam-driven, inefficient vessels. This placed the U.S industry even farther behind its foreign competitors in a marketplace in which every operating advantage must be used to its fullest extent.

U.S. ships are steadily declining in number. In September of 1984, the total number of active U.S. flag ships included 408 vessels [Ref. 7:p. 10]. According to Bureau of Statistics figures, by December 1984 there were only 401 active U.S. flag ships. Even though the number of ships is declining, the amount of deadweight tonnage has remained fairly stable. On a tonnage basis, the U.S. flag fleet ranks eighth in the world [Ref. 7:p. 9]. However, larger ships for U.S. operators does not mean larger U.S. crews are required to man them. The newer, larger ships being acquired by the U.S. flag ship lines are technically advanced, and require smaller crews. U.S. flag operators who used to require 35 to 40 people to man their ships now require only 21 or 22 men [Ref. 8:p. 65]. Unskilled, entry level jobs are being eliminated, especially in the engineering department. New engineering plants allow ships to be run from the bridge of the ship and require only two or three people in the engine room.

Government assistance in the form of direct subsidies has all but disappeared [Ref. 9:p. 33]. Cargo preference for

government cargo exists, but it provides only a portion of the cargo necessary to maintain an active U.S. flag fleet. The Department of Defense is hiring merchant mariners to man its prepositioned fleets. Military Sealift Command has hired contract crews to man its new Fast Sealift Ships (FSS), its new surveillance (T-AGOS) ships, the new Navy crane ships (T-ACS), and the new hospital ships (T-AH). These are all providing jobs for merchant mariners in an effort to stop the drain of the labor pool that is a result of seafaring jobs disappearing with the U.S. flag fleet.

H. SUMMARY

The history of the U.S. maritime industry suggests that only in times of war does the government really interest itself in helping to improve the merchant fleet. This periodic lack of concern has contributed to an unstable industry for workers. Today, the industry is again on the decline and the number of jobs and workers are decreasing with the number of ships. Activation of the RRF will provide a sudden increase in the number jobs available; but are there enough people left in the industry to fill them?

III. MARITIME MANPOWER

A. INTRODUCTION

The minimum number of seafarers required by U.S. law for the operation of a ship is less than have actually been used. U.S. seafarers wage rates and other benefits that have been gained through union negotiations have increased manpower costs for U.S. flag operators. Industry practices make it impossible to hire non-union crews, so ship operators have resorted to decreasing crew sizes in order to cut costs. As the crew sizes decrease so too do the skills available aboard the ships. Training to bring younger people into the industry continues but at a slower pace. The lack of seagoing jobs forced the unions to essentially close their books to many new members. As the industry grows more technologically advanced, frequent upgrading of training is required.

The RRF depends upon these same seafarers and their skills. Declining crew sizes mean declining job opportunities for those in the industry. The lack of seagoing jobs means fewer people entering the industry, which can lead to serious manpower shortages should the RRF be activated. Fully-manned, the RRF ships will require approximately 5,000 skilled mariners after 1991. Work

practices within the industry have led to a steady increase in the age of unlicensed seamen.

The maritime industry will have to provide the crews for the RRF ships. Unfortunately, the U.S. maritime industry may not be capable of providing the people necessary to man the RRF.

B. BACKGROUND

By tradition, U.S. flag vessels are organized into three departments: deck, engineering, and steward. Table 1 provides a listing of the ratings and officers typically found in each department. All ratings have different skills and are paid at different rates. The U.S. Coast Guard is responsible for issuing licenses to officers and certificates of service to unlicensed personnel. The rules governing the issuance of these documents are found in Title 46 of the Code of Federal Regulations. Rules for manning the ships follow national and international conventions as well as company and union agreements. The manning level of a ship is usually a function of the class and technology of the ship, and the type of service it provides. The U.S. Coast Guard (USCG) provides guidance and enforcement of U.S. manning regulations for U.S. flag ships.

The most significant of the manning laws is known as the three-watch provision. It stems from 46 USC 8104 (673) and states:

TABLE 1

U.S. MERCHANT SHIPBOARD ORGANIZATION

Ship's Master

DECK DEPARTMENT	ENGINEERING DEPARTMENT	STEWARD DEPARTMENT
Licensed Officers		
Chief Mate	Chief Engineer	
Second Mate	1st Assistant Engineer	
Third Mate	2nd Engineer	
Junior Third Mate	3rd Engineer	
Unlicensed Seamen		
Ship's Boatswain	Electricians	Cooks
Able Bodied Seaman	Reefer Specialists	Bakers
Ordinary Seamen	Oilers	Messmen
Carpenters	Firemen	Pantrymen
	Wipers	Utilitymen
	Water Tenders	

The Ship's Purser, Chief Steward, and Radio Officer are all unlicensed Staff Officers also attached to the ship.

Source: Derived from lecture at the Navy School of Physical Distribution Management, 8 March 1984.

> On a merchant vessel of more than 100 gross tons . . . the licensed individuals, sailors, coal passers, firemen, oilers and water tenders shall be divided, when at sea, into at least three watches, and shall be kept on duty successively to perform ordinary work incident to the operation and management of the vessel.

The law was established for reasons of safety and not conditions of labor [Ref. 1:p. 101]. Under this law, the minimum crew consists of:

* one licensed master;
* three licensed mates;
* three qualified deck sailors;
* three licensed engineers; and
* enough unlicensed engine-room personnel to have three per watch. [Ref. 1:pp. 99-111]

Actual crew sizes have been and usually are larger due to personnel in the steward department and union quality of work life agreements. The Maritime Administration (MARAD) must also approve manning levels if a vessel operates under subsidy or has been built with government funding guarantees.

Manning costs are one part of the high cost of operating U.S. flag vessels. Ship operators are successfully reducing their operating costs by reducing the sizes of their crews through the use of overtime, union contract renegotiations, technological upgrades, purchasing newer, larger, more advanced ships, and moving many shipboard responsibilities ashore. In the past, the ratio of seamen per billet for a ship has been 2:1, which means each ship billet is filled by a different seaman every six months [Ref. 1:p. 26].

Technological changes have contributed greatly to a reduction in the number of personnel needed to man ships. One of the areas where manning levels have been successfully reduced is in the engineering department. Technological innovations in the engine-room include remote control of main propulsion machinery from the bridge and an alarmed remote sensor to monitor engine operating conditions. These innovations remove the requirement for 24-hour watch standing in the engine-room. Further automation of the engineering spaces can greatly reduce the need for human operation of the propulsion plant. Maintenance, repair and inspection are the few operations required to be performed by people. [Ref. 1:p. 31]

Maintenance and repair functions have also been affected by technological change. Modular technology has reduced the need for personnel to perform extensive repairs to the engines while at sea. Malfunctions can be traced by automatic monitoring systems and inoperative modules quickly replaced. Condition monitoring systems can identify potential equipment problems that can be repaired while the ship is in port. This reduces the number of equipment problems encountered at sea and the need for large numbers of skilled repair personnel at sea.

Computers have become an integral part of the stowing and routing process for many ships [Ref. 10:p. 14]. Because the cargo stowage plan can already be drawn up for the ship

before it pulls into port, turnaround time for the ships is greatly reduced. The Master and First Mate are relieved of much of their planning efforts and the ship is not kept waiting while they inspect and plan how to stow the cargo. Ship routes are determined automatically according to the fastest, most economical route allowing for weather conditions.

These innovations have led to the elimination of many seagoing billets. They have also led to a proliferation of shipping consultants ashore. Skilled licensed seamen who can no longer find jobs at sea are finding jobs ashore telling shippers and underwriters the best way to protect their investments at sea. [Ref. 10] Unfortunately, the combined losses of seagoing jobs that are due to technological improvements and those due to the declining number of U.S. flag vessels, is considerable. Even though there are still merchant seamen, they are going to sea less and their seafaring skills will begin to deteriorate over time. In the event of a mass requirement for merchant mariners, it is questionable whether those left in the maritime industry will have retained the necessary skills.

Over time, the number of seafaring jobs available to merchant mariners has fallen consistently, except in times of emergency. Table 2 provides the number of jobs for all seamen in the U.S. over the past twenty years. Jobs began to decline after World War II when there were 168,000 billets

TABLE 2

AVERAGE MONTHLY SEAFARING EMPLOYMENT AVAILABLE
TO ALL U. S. MERCHANT SEAMEN (1964-1984)

YEAR	NUMBER OF JOBS AVAILABLE
1964	47,500
1965	47,160
1966	50,660
1967	54,790
1968	53,880
1969	49,534
1970	41,731
1971	33,790
1972	27,075
1973	26,633
1974	25,219
1975	23,584
1976	26,889
1977	26,831
1978	26,622
1979	26,979
1980	25,915
1981	25,184
1982	22,861
1983	20,695
1984	19,193

Source: Derived from U.S. Maritime Administration Statistics.

available [Ref. 1:p. 9]. Increases in jobs occur during wartime or other emergencies as can be seen in the table. The increases in available jobs that occurred in 1966 and 1967 were attributable to the Vietnam build-up and the increases in 1976 and 1978 were due to a sharp rise in Soviet grain shipments. For the time period shown, the total number of U.S. seafaring billets dropped by 60 percent. Jobs in the industry were lost at an average rate of about four percent each year. The active seafaring workforce available to fill the 19,193 billets in 1984 was 34,000 people [Ref. 11:p. i]. Taking into account the decline in U.S. flag ships, manning reduction efforts in the industry, and the attrition of those seamen who entered the industry during World War II, the active workforce expected to be available by 1990 is 31,000 people [Ref. 12: p. 51]. Barring a major war in the next five or six years, the trend of losing seafaring billets can be expected to continue [Ref. 19].

C. ENTRY TO THE INDUSTRY

Through their hiring halls, the unions control the entry of workers to the maritime industry. Strikes and government arbitration decisions gave this exclusive right of hiring to the union halls between 1934 and 1936. Now the union hiring hall is the only way a person can get a job aboard any U.S. flag vessel. Shipping companies contract with different unions to fill billets on ships. When seafarers are needed, the shipping firm calls the local union hall they have

contracted with and requests the number of people needed. The union determines who to send based upon seniority. The unions have developed a unique seniority system for their members.

Members are grouped into one of three seniority groups. The groups are based upon time served, but there is no seniority ranking within a particular group. Applicants from seniority Group I will be sent to jobs before Group II or Group III applicants. Group II applicants are sent before Group III applicants, and Group III applicants are sent before those who have no prior experience on U.S. flag vessels. [Ref. 5:p. 72] The general procedure for matching seamen with jobs is as follows:

> . . . a seaman registers with his local union hall and receives a registration card valid for a specific time period with the date and time registered, his rating . . ., and his seniority group marked on the card. Job openings are sent to the hall by contracted shipping companies in the area, posted on the notice boards, and called at set intervals. When a job is called, any qualified seaman can bid for the opening . . . . The seaman with the oldest registration card in the highest seniority group among those cards submitted is dispatched to the job. [Ref. 13:p. 221]

This procedure has been followed and assignments made on a local basis for years. Table 3 shows the effect of these hiring practices on a depressed industry. Radio Officers are predicted to be phased out of the ship's organization by 1991. As can be seen from the table, Radio Officers show an increase in median age as each year goes by. No new people are entering the industry and those who are young

enough, and junior enough within the seniority groupings are leaving the industry. Unlicensed seamen show much of the same trend as the Radio Officers. Job losses in the industry and the older, more senior workers holding on to their jobs until they qualify for their pensions are preventing the introduction of newer, younger people into the industry. [Ref. 23]

TABLE 3

MEDIAN AGES OF SEAMEN UNDER ARTICLES SERVING ABOARD U.S. SHIPS GREATER THAN 1000 GROSS WEIGHT TONS

Department	1981	1982	1983	1984
Radio	54.5	55.1	55.9	56.6
Unlicensed				
Deck	50.6	51.2	52.1	52.8
Engineering	50.3	50.9	51.8	52.3
Cooks & Stewards	52.6	52.9	53.5	54.2

Source: Derived from U.S. Maritime Administration statistics.

Hiring hall practices have also served to limit the effective utilization of a union's manpower by providing assignments only on a local basis. However, with the introduction of computers, this method of job assignment is changing. The Seaman's International Union (SIU), a union for unlicensed seamen, has changed its personnel management practices drastically. The SIU developed a comprehensive personnel data base on their IBM 4341 which is located at the Harry Ludenberg School of Seamanship in Piney Point,

Maryland. This data base contains information on skills, training, location, and availability for employment of every SIU member. Now, when the local SIU union halls get a call from a contracted shipping company for personnel, that order is forwarded to Piney Point, where the job is actually filled. The name of the man assigned to the job is forwarded to the requesting union hall and they make the arrangements to transport the member to the job, if he is not in the local area. Transportation costs are paid by the ship operator. The manpower management capability provided by this data base has enabled the SIU to operate from a nationwide base rather than a regional one. Jobs will not go unfilled or workers unemployed because each was available in different locations. Presently, the SIU is the only union with this personnel management capability.

D. TRAINING

The safety and operating requirements for U.S. flag ships are the most stringent among maritime nations. In the United States, seamanship has become a profession, and training is required to become an active part of that profession. Both licensed and unlicensed seamen undergo extensive training for entry to the field. They must also update that training at various intervals throughout their careers. [Ref. 4:p. 186]

Seven unions have established eight schools in various locations to keep their members up to date on the changing technology of the newer ships that are beginning to make up

the U.S. flag fleet. Unlicensed union schools provide the entry skills training necessary for young people to enter the profession. These schools also provide upgrade training and recertification programs to help their members advance.

There are two schools for unlicensed seamen; one is sponsored by the Seaman's International Union and the other by the National Maritime Union (NMU). Five of the licensed officers unions sponsor six schools for their members. All eight schools are Coast Guard-approved and include vocational and academic courses. The schools are jointly funded by the unions and the shipping operators through collective bargaining agreements.

The Merchant Marine Act of 1936 established a training program for American seamen. This eventually took the form of the U.S. Merchant Marine Academy in King's Point, New York. The school trains men and women to become licensed officers in the U.S. merchant marine. They receive classroom training and spend a year at sea on U.S. flag vessels. Graduates receive U.S. Coast Guard licenses as deck officers, engineering officers, or both. They also receive Bachelor of Science degrees as the Academy is a fully-accredited university. Graduates of the Merchant Marine Academy incur a five year sailing obligation for the U.S. merchant marine. Students for the school are nominated and appointed in the same manner as for the U.S. military academies.

There are also six State maritime academies. They are located at Vallejo, California; Castine, Maine; Buzzards Bay, Massachusetts; Traverse City, Michigan; Fort Schuyler, New York; and Galveston, Texas. All of these schools, except Traverse City, are four-year institutions and award Bachelor of Science degrees. All the schools award Coast Guard licenses. The federal government provides financial assistance to these schools under Public Law 96-453, the Maritime Education and Training Act of 1980. This law provides incentive payments of $1200 each to students at the academies. Students who participate in the incentive payment program incur a three-year sailing obligation with the U.S. merchant marine. Qualified graduates of programs at either the state or federal level may be commissioned as ensigns in the U.S. Naval Reserve.

In response to the declining number of jobs available in the U.S. merchant fleet, MARAD has been following a policy of reductions in the size of classes admitted to King's Point. They are also awarding fewer incentive payments to students in the state academies. This attempt by MARAD to decrease the projected oversupply of merchant officers has been offset by the fact that the state academies have collectively expanded their enrollment even as MARAD decreases theirs.

Each year, maritime academies graduate about 1,000 new merchant marine officers. Of that 1,000, only 20-30 percent find seagoing employment, this includes those who accept

commissions in the U.S. Naval Reserve [Ref. 23]. However, the licensed officers, unlike the unlicensed crewmen have already bypassed their obsolescence block of older mariners waiting to retire. A younger workforce is being developed in the deck and engineering officer ranks. The median age for licensed seamen is actually declining. With an attrition rate of about six to eight percent per year, the licensed ranks are rebuilding their numbers after a large number of retirements between 1981 and 1983 [Ref. 23].

E. U.S. MANNING PROBLEMS

The U. S. merchant marine seems to incur shortages only in wartime. In peacetime, there are always more than enough seamen available to man the ships. The first documented case of maritime manpower shortages occurred during World War II. During the Korean War, the number of seagoing billets increased from 57,000 to 87,000 in only one year [Ref. 14:p. 40]. This 53 percent increase could not be met by the available workforce. Many ship sailings were delayed because of significant shortages of licensed radio operators, engineers, and able-bodied seamen.

Curiously, the manpower shortages that occurred during the Vietnam Conflict are reflected only in the government reports of the time. During Vietnam there were a peak number of 172 GAA vessels operating [Ref. 16:p. 6]. The GAA was much the same as it is today.

Part of the research done for this thesis was to write letters to all the known holders of GAA's for RRF ships and the unions of those general agents. There were 11 general agents and 13 unions contacted. Replies were received from about a third of each. Questions concerning manning problems encountered by each during the Vietnam Conflict resulted in some surprising answers. Most of the respondents reported encountering little or no problems during Vietnam.

Nevertheless, statistics show that there were serious manpower shortages during the Vietnam Conflict. These shortages delayed over 1,540 sailings for a total of 2,859 days between 1966 and 1969 [Ref. 15:p. 30 and Ref. 16: p. 39]. The estimated additional costs to the government because of these delays due to crew shortages was approximately $7,089,400 between 1966 and 1968 [Ref. 15:p. 31]. The shortages continued until the Vietnam sealift began to wind down in the early 1970s, despite Selective Service occupational deferments for categories of seamen in short supply and massive recruiting efforts on the parts of MARAD and MSC.

F. DOD MEASURES

From a military viewpoint, the decreases in the U.S. flag fleet and its resulting manpower losses are a threat to the security of the nation. A history of manpower shortages for manning ships during wartime is what has DOD concerned about adequate manning for the RRF. Shortages and delayed sailings

during the surge shipping segment of the RRF mission could make a big difference in the outcome of the conflict. Steps taken by DOD to solve the problems associated with a declining seafaring workforce include: more extensive contracting for manning of Navy support vessels, creation of the Merchant Marine Reserve (MMR) Program, and RRF activations.

MSC has significantly increased its use of contract manning for support of Navy operations in the past few years. The Near Term Prepositioning Force (NTPF) which is located in the Indian Ocean has 15 of its 17 ships manned by merchant mariners. The 13 ships that will comprise the Maritime Prepositioning Force (MPF) will all be manned by merchant seamen. The new fast sealift ships (FSS), the aviation logistics support ships (T-AVB), the hospital ships (T-AH), and the auxiliary crane ships (T-ACS) maintain contract skeleton crews at all times and, when activated, are fully crewed by contracted merchant seamen. Many of the MSC special mission support ships, which provide support for specialized scientific and technical missions for DOD sponsors, are manned by contract crews.

Another method designed to insure a contingent of merchant officers during emergency situations is the Merchant Marine Reserve (MMR) Program. Officers in the MMR provide the link between merchant ships and U.S. Navy vessels that operate together during emergency situations. The Merchant

Marine Reserve officers receive commissions in the U.S. Naval Reserve; their designator is 16XX. In the event forces are mobilized, the 16XX officers remain in the merchant fleet to perform their liaison mission.

Most of their Naval Reserve work is done through correspondence courses. Naval Reserve Officers have two weeks of active duty per year in order to train with Naval units. However, according to officials at the Chief of Naval Reserves, a major problem with the two-week training program is that the MMR officers are in competition with Naval Academy and ROTC midshipmen for space aboard Navy ships for training. Midshipmen are given priority for the available training slots and MMR officers end up spending their two weeks of training in firefighting school or some similar occupation.

Qualified graduates of the maritime academies are offered the opportunity to become a part of the MMR. Those students who received government assistance while attending school and do not accept commissions in either the Navy or Marine Corps are required to become a part of the MMR for the period of their sailing obligation. Students at all academies are exposed to the MMR program as well as many aspects of the U.S. Navy and Marine Corps through the Naval Science Departments that have been established at the schools.

The number of people participating in the MMR fluctuates. In October 1985, there were approximately 3700 people in the program [Ref. 24].

RRF activations provided actual at-sea time for the merchant mariners aboard the RRF ships. The ships are activated for at least 30 days and usually operate with military forces. RRF activations provide unique training opportunities for those merchant seamen who man them.

G. SUMMARY

Job shortages in the maritime industry are the result of several factors: the declining number of U.S. flag vessels, efforts by operators to reduce crew sizes, and the increasing sophistication of the technology aboard ships that has reduced the need for human labor. U.S. regulations for crew size are based upon the need for safety of operation. As ships become more technically advanced and self-monitoring, the larger crews required for safety and maintenance are no longer required. Fewer graduates of the Maritime academies are finding employment at sea. Jobs that used to be found on board ships are now being moved to shore, as operators cut their crew costs by passing many shipboard responsibilities (like cargo stowage and repair functions) to the shippers and underwriters.

As the present workforce retires, the job shortage problem will become less problematic. Unfortunately, the resulting balance of supply and demand of labor will be

adequate to meet peacetime demands only. Activation of the RRF will severely tax the available labor supply.

Past experiences in wartime situations suggest that manning shortages for RRF ships will happen. Some steps have been taken by MARAD and DOD to ensure an adequate supply of personnel to meet the manning needs of the RRF ships. DOD is providing jobs within the industry to maintain the number of seafarers available. MARAD and DOD are sponsoring training programs that provide the necessary training to merchant mariners for the operation of the RRF ships.

IV. THE READY RESERVE FORCE

A. INTRODUCTION

The present Ready Reserve Force, when fully activated, will require approximately 3,000 men to man the ships. By 1991, this figure will rise to about 5,000 men. The RRF and its manning problems were created as a result of shipping capability shortfalls that first appeared during World War II and then for each armed conflict that followed. The responsibility for providing the manpower for RRF ships is as diverse as the process of maintaining and activating the ships. No one, yet everyone, is responsible for getting RRF ships underway. The RRF ships and their crews are vital to the success of U.S. war efforts. To understand the problems with manning RRF ships, it is first necessary to understand the history, participants, and make-up of the RRF.

B. BACKGROUND

After World War II, the U.S. government placed approximately 1,400 of the merchant ships it built during the war into the National Defense Reserve Fleet (NDRF). This fleet of ships was to be preserved and maintained in a condition that would allow responsive activation in times of economic and military emergencies. Ships from the NDRF were activated for the Grain Storage Program in the 1950s, to provide extra sealift capacity during the Korean Conflict,

during the Suez Canal Crisis in 1956, during the Berlin Resupply, and to provide military logistical support in Vietnam [Ref. 14:p. 40]. However, as the age of its ships increased, the capability of the NDRF to meet emergency needs in a timely manner declined.

In 1976, an analysis was done by the Maritime Administration (MARAD) to determine the time required to break ships out of the NDRF and have them ready for deployment. The study showed that NDRF ships could not be made ready in time to meet the Navy's critical time windows. What the Navy required in five to ten days, MARAD could provide in 30 to 40 days [Ref. 15:p. 40]. The reasons for this long activation period included: the average NDRF ship was 30 years old; ships in the NDRF were maintained in the same condition as when they were laid up; the preservation and maintenance practices for the NDRF did not include activities that kept the ship within five to ten days of deployment; and, one of MARAD's more serious problems, the nonavailability of ship repair and dry dock facilities to prepare the ships for sea when needed [Ref. 14:p. 42].

After evaluating and discarding several different plans to meet the perceived military needs, the Navy and MARAD finally decided that the best way to solve the problem was to establish a special cadre of ships within the NDRF. These ships were initially drawn from the NDRF and upgraded to meet required activation standards. These ships became the Ready

Reserve Force (RRF). RRF ships were maintained in states of five-, ten-, and twenty-day readiness for activation. A Memorandum of Understanding between the Navy and the Department of Commerce was signed in 1976, formally establishing the RRF. The Navy determined the specific ship mix and type, total number of ships, and future changes in the composition of the RRF subject to MARAD agreement [Ref. 15:p. 41].

Management of the RRF is a joint venture between MARAD and the Navy. MARAD owns the ships and controls repair and maintenance of the ships. They also are responsible for providing the ships to the Navy manned, provisioned, and ready to deploy should the RRF be activated. The Navy controls the activation of the RRF ships and funds the costs of procurement, upgrade, maintenance, activation, and exercises.

MARAD performs its manning, provisioning, and activation duties through the use of General Agency Agreements (GAA). These contracts are awarded to commercial ship agents who manage the ships for the government. The GAA outline the responsibilities of the general agents when RRF ships are activated. These responsibilities include:

* Establish communications and liaison with MARAD regional office, Reserve Fleet sites, government and commercial outport layberth sites, activation facilities, U.S. Coast Guard, American Bureau of Shipping (ABS), Federal Communications Commission (FCC), tug/towing companies, and ship chandler, husbanding and bunkering firms.

* Order linehandlers and tugs for outport layberth sites.

* Assure diver availability for removal of underwater blanks on ship arrival at activation facility.

* Assign a port engineer to each activation facility.

* Request ship crewing from Seafarer Unions.

* Oversee and coordinate the activation work as the activation facilities.

* Recommend granting of U.S. Coast Guard, and FCC certification waivers.

* Report activation status to MARAD.

* Conduct sea trials.

* Initiate action to resolve activation problems. [Ref. 15:p. 41]

An additional requirement will be added to the GAA in the near future [Ref. 19]. General agents will soon be required to provide familiarization training aboard their RRF ships. Concerns that the new engineering officers entering the merchant marine might not be familiar with the old steam propulsion plants aboard the RRF ships and that deck personnel lack the skills and knowledge required to operate new military sealift cargo gear are leading to this training requirement [Ref. 17]. For each type of vessel under contract, the general agent will be required to conduct one week familiarization training, twice a year. Twelve or so key personnel will receive this training. Each session will train different people from the available labor pool. The training will be provided to both licensed and unlicensed seamen. The general agents will be responsible for

maintaining a list of names of the people who have received the training and providing those names to the unions with their RRF crew orders. The unions have apparently agreed to assign personnel who have received the training to RRF ships [Ref. 19]. One of the general agents, Interocean Management Corporation, has already taken steps similar to these new requirements. They are making every effort to insure that there are trained crews available for the RRF ships that they manage [Ref. 20].

C. PURPOSE OF THE READY RESERVE FORCE

Strategic sealift support for a contingency includes three major types of shipping. These are, prepositioned shipping, surge shipping, and resupply shipping. Surge shipping sealifts the bulk of equipment and initial sustaining supplies that are based in the Continental United States to points where it is required overseas. Resupply shipping immediately follows to meet daily consumption needs and build up reserve stock levels. [Ref. 17:p. 3] Surge shipping is critical to the support of overseas operations requiring large amounts of combat equipment. The surge shipping capability will be required within a matter of days after a National Command Authorities (NCA) decision to deploy forces is made. People and ships must be immediately available to fulfill this mission.

The RRF is one of three sources for this surge shipping capability [Ref. 17:p. 8]. After its surge shipping duties are over, the RRF provides resupply shipping capabilities for as long as resupply shipping is needed. The activation process for Ready Reserve ships begins with an assessment by Military Sealift Command (MSC) of shipping capability shortages. The MSC reports this assessment and its recommendations to alleviate the shortages to the Chief of Naval Operations (CNO), Strategic Sealift Division (OP-42). The CNO, in coordination with the Joint Chiefs of Staff (JCS), determines the number of RRF ships required to meet the shortage. The Navy sends a message to MARAD requesting the RRF ships needed by type, number, and location. MARAD then prepares the ships for sea and makes them available to the MSC who will exercise control over them for the duration of their activation. [Ref. 18:pp. I 19 - I 20]

D. READY RESERVE FORCE SHIPS

The RRF ships will be manned by merchant mariners. Most of the RRF ships are located at one of three sites--James River, Virginia; Beaumont, Texas; Suisun Bay, California. Present plans are that those ships with ten- and twenty-day readiness requirements will remain in these locations. Those RRF ships with five-day readiness requirements will be relocated near loadout ports. This relocation of the five-day ships should help to avoid problems of congestion at RRF sites, reduce towing requirements, and place ships closer

to activation facilities, all of which should enhance early ship arrival onberth for contingency loadout. Another advantage of relocation of the RRF ships is that they will be more readily available for crew familiarization training. Manning requirements will also be spread over a wider area of responsibility. There is a better chance that the local unions will be able to provide adequate manpower within prescribed time windows.

Table 4 provides a listing, by location, of the RRF as of May 13, 1985. The table also provides information concerning the ship type, its age in years, and the name of the company assigned as general agent. This listing provides the names of only 62 ships. Current MARAD and Navy plans are that the RRF will consist of 116 ships by 1991 [Ref. 17:p. 27].

The table shows that the average age of RRF ships is 23.8 years. All ships in the RRF are in good operating condition and can be relied upon in case of emergency. The reason the ships are so old can be attributed to how they are obtained. The newer RRF ships are obtained from the U.S. maritime industry. As the industry switches to newer, larger container ships, MARAD purchases the ships that are to be retired, but which still have a useful life. Unlike the newer ships being built today, most of the RRF ships are capable of offloading their own cargo. This is especially important as military cargo is often offloaded in areas with no developed port facilities. Ships have been added to the

TABLE 4

LISTING OF SHIPS IN THE READY RESERVE FORCE
BY LOCATION

SHIP LOCATION: James River, Virginia

SHIP NAME	SHIP TYPE	AGE (Years)	GENERAL AGENT
SS CATAWBA VICTORY	Cargo	40	Auburn Shipping (APEX)
*SS LAKE	Cargo	24	Moore McCormack SA (U.S. Lines)
*SS SCAN	Cargo	24	Moore McCormack SA (U.S. Lines)
*SS PRIDE	Cargo	25	Moore McCormack SA (U.S. Lines)
SS CRACKER STATE MARINER	Cargo	31	Farrell Lines
SS OHIO	Seatrain	41	Connecticut Transport (Ogden)
SS AMBASSADOR	Cargo	25	Marine Transport Lines
*SS AGENT	Cargo	24	Marine Transport Lines
*SS MARGARET LYKES	Cargo	22	Unassigned to any agent
SS ADVENTURER	Cargo	25	Marine Transport Lines
SS AIDE	Cargo	24	Marine Transport Lines
*SS CAPE ANN	Cargo	23	American Foreign Shipping
*SS CAPE ALEXANDER	Cargo	23	American Foreign Shipping
*SS CAPE ARCHWAY	Cargo	22	American Foreign Shipping
*SS CAPE ALAVA	Cargo	23	American Foreign Shipping
*SS CAPE AVINOF	Cargo	22	American Foreign Shipping
SS GREAT REPUBLIC	Cargo	16	Unassigned to any agent
SS COURIER	Cargo	23	Farrell Lines

TABLE 4--Continued

SHIP LOCATION: James River, Virginia

SHIP NAME	SHIP TYPE	AGE (Years)	GENERAL AGENT
SS BANNER	Cargo	24	Farrell Lines
*SS KEYSTONE STATE	Crane	19	Interocean Management Corporation
*SS ALLISON LYKES	Cargo	21	Unassigned to any agent
*SS AIMEE LYKES	Cargo	22	Unassigned to any agent
SS SANTA LUCIA	Cargo	19	Unassigned to any agent
SS SANTA BARBARA	Cargo	18	Unassigned to any agent
SS SANTA ISABEL	Cargo	18	Unassigned to any agent
SS SANTA CLARA	Cargo	19	Unassigned to any agent
SS SANTA CRUZ	Cargo	19	Unassigned to any agent
SS SANTA ELENA	Cargo	18	Unassigned to any agent
*SS CHRISTOPHER LYKES	Cargo	22	Unassigned to any agent
*Ex-USNS SOUTHERN CROSS	Cargo	23	Interocean Management Corporation
Ex-USNS POTOMAC	Tanker	21	Watters Marine

SHIP LOCATION: Beaumont, Texas

SS AMERICAN EXPLORER	Tanker	26	Unassigned to any agent
SS MAINE	Seatrain	41	Connecticut Transport (Ogden)
SS WASHINGTON	Seatrain	41	Connecticut Transport (Ogden)
SS SANTA ANA	Cargo	22	Lykes Bros. Steamship Company
SS PIONEER COMMANDER	Cargo	22	U.S. Lines

TABLE 4--Continued

SHIP LOCATION: Beaumont, Texas

SHIP NAME	SHIP TYPE	AGE (Years)	GENERAL AGENT
SS PIONEER CRUSADER	Cargo	22	U.S. Lines
SS PIONEER CONTRACTOR	Cargo	22	U.S. Lines
SS CHANCELLORSVILLE	Tanker	42	Keystone Shipping Company
*SS DEL VIENTO	Cargo	17	Unassigned to any agent
*SS GULF SHIPPER	Cargo	21	Unassigned to any agent
SS DEL MONTE	Cargo	17	Unassigned to any agent
SS DEL VALLE	Cargo	17	Unassigned to any agent
*SS GULF TRADER	Cargo	21	Unassigned to any agent
SS GULF MERCHANT	Cargo	20	Unassigned to any agent
SS GULF BANKER	Cargo	21	Unassigned to any agent
SS GULF FARMER	Cargo	21	Unassigned to any agent
SS SHELDON LYKES	Cargo	22	Unassigned to any agent
SS CHARLOTTE LYKES	Cargo	22	Unassigned to any agent
SS ADABELLE LYKES	Cargo	22	Unassigned to any agent
SS MAYO LYKES	Cargo	22	Unassigned to any agent

SHIP LOCATION: Suisun Bay, California

*SS CALIFORNIA	Cargo	23	American President Lines
SS PRESIDENT	Cargo	24	American President Lines
*Ex-USNS NORTHERN LIGHT	Cargo	24	American President Lines

TABLE 4--Continued

SHIP LOCATION: Suisun Bay, California

SHIP NAME	SHIP TYPE	AGE (Years)	GENERAL AGENT
Ex-USNS SHOSHONE	Tanker	28	Unassigned to any agent
*Ex-USNS COMET	Roll-on/Roll-off	27	American President Lines
SS FREDERICK LYKES	Cargo	18	Unassigned to any agent
SS HOWELL LYKES	Cargo	18	Unassigned to any agent
SS DOLLY TURMAN	Cargo	18	Unassigned to any agent
SHIP LOCATION: Pearl Harbor, Hawaii			
Ex-USNS NODAWAY	Tanker	40	Crowley Towing & Transportation Company
SHIP LOCATION: Yokohama, Japan			
Ex-USNS ALATNA	Tanker	28	Crowley Towing & Transportation Company
Ex-USNS CHATTAHOOCHEE	Tanker	28	Crowley Towing & Transportation Company

Source: U.S. Maritime Administration, READY RESERVE FORCE (RRF) listing, May 13, 1985.

*Denotes five-day readiness status.

RRF at a rapid pace within the last two years. This explains the large numbers of ships in the table that have no general agents yet assigned.

Each RRF ship is subject to "no notice" activation tests to determine its readiness capability. During the activation the RRF ship must be broken out of its layup site, activated by a repair facility, and either tested at sea or made available for Navy operational employment. From October to November 1983, the **SS CALIFORNIA** carried military cargo for Exercise BOLD EAGLE 84; the **SS PIONEER CRUSADER** supported MSC cargo operations in February and March 1984; the **SS WASHINGTON** lifted military cargo in June 1984; and in September 1984 the **SS KEYSTONE STATE, SS EXPORT LEADER,** and the **SS CAPE ANN** were activated to participate in the Joint Logistics Over the Shore (JLOTS) II exercise at Fort Story, Virginia [Ref. 7:p. 37]. All ships were successfully activated within required time windows and provided useful support to meet military needs. The Navy plans to activate each RRF ship at least once every five years for upgrading to ABS class and Coast Guard certification standards, operation, and subsequent deactivation and layup [Ref. 18:p. I-1].

E. READY RESERVE FORCE MANNING

The RRF ships are manned by merchant seamen when activated. These men are drawn from the same workforce that is available to the commercial sector. Tables 5 and 6 provide the manning requirements for the RRF ships in the

TABLE 5

NUMBER OF LICENSED SEAMEN REQUIRED TO FULLY MAN EACH DEPARTMENT OF READY RESERVE FORCE SHIPS (1984-1995)

		Number of Licensed Seamen		
Year	Number of Ships	Deck Officer	Engineering Officer	Radio Officer
1984	55	274	336	54
1985	73	364	456	77
1986	87	435	539	92
1987	93	464	571	97
1988	101	504	620	111
1989	108	539	663	113
1990	112	559	688	117
1991	116	578	712	121
1992	116	578	712	121
1993	116	578	712	121
1994	116	578	712	121
1995	116	578	712	121

Source: U.S. Department of Transportation, Maritime Administration, Office of Maritime Labor and Training, "Reserve Fleet Crewing Feasibility 1984-1995", p. 21.

TABLE 6

NUMBER OF UNLICENSED SEAMEN REQUIRED TO FULLY MAN EACH DEPARTMENT OF READY RESERVE FORCE SHIPS (1984-1995)

Year	Number of Ships	Number of Unlicensed Seamen					
		Deck		Engineering		Stewards	
		Skilled	Unskilled	Skilled	Unskilled	Skilled	Unskilled
1984	55	394	197	288	193	155	309
1985	73	531	264	385	257	240	480
1986	87	632	315	445	297	277	553
1987	93	667	333	465	310	289	578
1988	101	725	362	505	337	314	628
1989	108	775	387	540	360	336	671
1990	112	804	401	560	374	348	696
1991	116	832	415	580	387	361	712
1992	116	832	415	580	387	361	721
1993	116	832	415	580	387	361	721
1994	116	832	415	580	387	361	721
1995	116	832	415	580	387	361	721

Source: U.S. Department of Transportation, Maritime Administration, Office of Maritime Labor and Training, "Reserve Fleet Crewing Feasibility 1984-1995", p. 21.

event of total activation. The necessary crew size averages approximately 41 people per ship. As the tables show, the number of people required to man the ships grows each year. In 1985, more than 3,000 seamen were required to man the RRF ships. By 1991, the RRF will require 1,411 officers and 3,287 unlicensed seamen to man ships that are only used in case of emergency. This requires that 16 percent of the predicted available workforce in 1991 be diverted from commercial pursuits. This requirement will be laid upon a workforce that is rapidly nearing retirement and has limited the number of new entrants.

During RRF activation, commercial shipping will continue to function and the commercial ship operators will be competing with the RRF ships for available manpower resources. Using a 2:1 ratio of seamen to billets for labor supply and assuming that the average four percent decline in the number of commercial seagoing billets available continues, by 1991, there will be a requirement for 27,638 seamen to fill the 13,819 commercial billets that will be available. If the total number of seamen in the industry is the 31,000 predicted, there will be adequate manpower in the industry. Full activation of the RRF at this time will add 5,000 billets to the number of jobs available, and require, at least 5,000 men to fill the billets. This leads to a shortfall of at least 1,638 sailors. Assuming it takes 40

people to man one RRF ship, under a 2:1 billet fill ratio, this shortfall is the equivalent of about 41 RRF ships.

The seaman to billet ratio will actually decline from 2:1 to 1.6:1. This means that, in sheer numbers of people available, the billets on both commercial and RRF ships could be filled. Unfortunately, since there will only be just enough people available, there is no possibility of personnel rotation and all will be required to be at sea constantly.

In October 1985, the Navy and MARAD sponsored a Command Post Exercise (CPX) in an attempt to determine whether the needs of the RRF and commercial needs could actually be met during full activation. As a part of the exercise, the availability of qualified personnel to man the ships was also tested.

This CPX, entitled BREAKOUT-85, was conducted by a defense contractor, Information Spectrum Incorporated. BREAKOUT-85 attempted to simulate a full activation of the RRF. The final report for this exercise is due out in February 1986. However, preliminary results of the manpower portion of the exercise were obtained from MARAD's Maritime Labor and Training Office.

Two days of the Breakout-85 exercise were devoted to an accelerated manning scenario for the ships. General agents and the unions were invited to send representatives to MARAD to participate in the two-day exercise. Separate tables were set up for the general agents and the union representatives

at the command post location in Washington, D.C. The general agents were given ship activation requirements by the exercise coordinator. The agents, in turn, originated actual orders for crewing which were sent to the respective union representatives. The union people then performed a functional match-up between the billet requirements and their manpower availability. For the purposes of this exercise, the unions were not required to provide the names of members assigned to the ships; they only had to verify the existence of an available body to meet the requirement. Twenty percent of the union responses provided actual names of the personnel who were assigned to fill respective billets.[Ref. 22]

The two-day exercise assigned approximately 3000 men to the 69 RRF ships activated in the simulation. All ships were fully manned within the time required. Because of the transportation expense involved, the actual logistics of moving men to billets was not tested. The results of the exercise show that in 1985 adequate manning is available in the event of a full RRF activation.[Ref. 22] It also demonstrated that the unions possess the labor pool information that would answer many questions concerning availability and numbers of maritime personnel in the workforce.

F. SUMMARY

The RRF was created in 1976 in response to the perceived inability of the NDRF to meet emergency shipping needs. The

RRF, a joint venture between MARAD and the Navy, began with only 30 ships which were drawn from the NDRF inventory. It has grown to 69 snips in 1985 and is expected to contain 116 ships by fiscal year 1991.

The Navy funds the procurement of new ships for the RRF. MARAD controls the ships when they are not in use and provides them to the Navy, ready to deploy within a five-, ten-, or twenty-day time frame when required. MARAD maintains and prepares the RRF ships for duty through the use of GAAs with commercial shipping firms.

The size of the RRF has grown as the size of the U.S. flag fleet has declined. In this way the military ensures the availability of ships to meet emergency shipping requirements. RRF ships are manned only during emergencies, as a result, there is the constant risk that ships will be available to meet military needs but they will not be able to perform their functions because of a lack of crews.

As the U.S. flag fleet declines, so too do the number of jobs available for mariners. Disappearing jobs mean disappearing numbers of mariners available to man ships at any time. In 1985, BREAKOUT-85 demonstrated that there are enough seafarers available to man the commercial ships and all of the present 69 RRF ships. But one must still ask: what will happen in 1987 when the number of RRF ships grows to 83--or in 1991, just six years from now, when 5,000 people will be required for the 116 RRF ships as well as the

commercial fleet. Will there be enough people available? The answer to that question might possibly be found in the pages of the union membership books.

V. ANALYSIS OF ALTERNATIVES

There are several alternatives that may help resolve the maritime manpower shortages likely to occur during a full activation of the RRF. These alternatives are discussed below.

A. CIVILIAN MANNING OF AE, AFS, AND AD TYPE SUPPORT SHIPS

Contract manning of Navy ships provides jobs for seafarers. Preserving jobs in the industry helps to keep a stable workforce. A 2:1 billet ratio can be maintained and a pool of seafarers remains available to man RRF ships in an emergency.

The Navy, through MSC, has already increased the number of contract crews that man many of its support ships. A further step the Navy might take in order to insure jobs for merchant seamen is to man its ships, which are presently manned by uniformed seamen, with merchant seamen. The classes of ships that could be considered for this contract manning include ammunition ships (AE), combat stores ships (AFS), and destroyer tenders (AD).

Contract manning of these ships would provide a new base of jobs for merchant seamen that could begin as early as 1986. These are jobs that will continue to exist for as long as the Navy needs to be resupplied at sea. The cost of manning the ships with merchant seamen would be lower than

manning them with Navy military personnel [Ref. 25:p. 41]. Considerably fewer merchant seamen would be used to man the ships than the large number of military personnel presently on board. Because of the 2:1 billet ratio for merchant mariners, the ships could be better utilized during peacetime, since they would need to spend less time in the ship's homeport. Contract manning also releases uniformed sailors to man the new ships of the 600-ship Navy without Congressional action to increase the Navy's manpower allowances.

Costs to the military for this alternative include a loss of survivability for the vessel during wartime. Smaller crews mean fewer people for damage control and no people to replace casualties. Loss of the billets on these ships would also decrease the number of training and command billets available to Navy personnel. Furthermore, there would be an eventual loss of fleet support skills for uniformed personnel. The military would also lose operational control of the ships to the contractors, and would only have limited control over the selection of crews.

One other manning problem that could occur during wartime is an "artificial manpower shortage." There are no laws that force merchant seamen to go to sea if they choose not to go. Life onshore could appear a lot safer and just as lucrative to merchant seamen during wartime. Both Britain and the

United States have had to deal with this problem during wartime.

B. BETTER UNION CONTROL OF MANPOWER ASSETS

As described in Chapter III, since 1934, unions have handled their manning process on a local level. Ships might sail shorthanded or not at all because people were not available in the local area to go to sea. Most of the unions that will provide seafarers for the RRF ships have a national membership. All but one of these unions still assign their men on a local rather than national level. Failure to institute a method of national manpower control wastes union and ship operators' resources. It will also probably lead to delayed RRF sailings in the event of a full RRF activation.

The SIU has found a means of better controlling its manpower resources through centralization of its assignment process. Although it adds an extra step to work that could be done on the local level, it has the added dimension of knowing where members are available for employment when local sources are depleted.

The costs for the development of this capability include costs for computer hardware, the development of the manpower data base, and the software development costs. The software has already been developed by the SIU, and cooperative efforts on the part of all the unions could lead to a sharing of the software without the dollar and time costs of new development.

Hardware costs will vary, depending upon the equipment acquired. The IBM 4341 used by the SIU retails for between $81,000 and $400,000. However, this equipment consists of a mainframe computer with a considerable amount of core memory and has many other uses. An IBM PC AT with 60 megabites of memory on hard disk could conceivably perform the necessary manpower control functions for between $12,000 to $15,000.

The costs for developing these assets could be shared by the unions and the ship operators as both will benefit from improved manpower management. Delayed sailings because of manpower shortages are very expensive for today's ship operators, and union manpower availability shortages hurt the union's credibility with the operators.

C. UNION MANPOWER POOLING

Historically, the maritime unions have jealously guarded the jobs that they control. If a shipping company was under contract to a particular union and the union could not provide the appropriate number of people for a voyage, the sailing was delayed or undertaken shorthanded. If the ship operator approached another source for the needed personnel, his contracted union could be expected to strike and all operations would stop.

Since the RRF ships are manned by these same unions through commercial shipping companies, they are subject to these same problems. One solution to the problems associated

with local union manpower shortages is the pooling of union resources during emergencies.

There are some 31 different seagoing unions operating in the U.S. [Ref. 4:p. 185]. Many overlap in the skills their members possess. Local pooling agreements could be drawn up between unions with similar skills to provide the necessary manpower for RRF ships during their activation.

These agreements would apply only to RRF ships and their activation period. The agreements would not infringe upon any union's control of jobs, as the agreement would be used only when personnel were not available for RRF ships.

The unions would be forced to trust one another to abide by the terms of the agreements and work together to settle the member crossover differences in pay, benefits, and work requirements.

A benefit for the manning of the RRF will be fewer, if any, delayed or shorthanded sailings, and the estimated $7,089,400 cost for delayed sailings that occurred during Vietnam might not be repeated.

D. INCREASE THE MEMBERSHIP OF THE MERCHANT MARINE RESERVE

The MMR presently consists only of officers who are actively pursuing seagoing employment. Unfortunately, few of those graduating from the maritime academies are able to find seagoing employment. Their Coast Guard licenses are allowed to lapse and an entire group of possible crew members for RRF ships are forgotten. In 1985, there were 5,434 licensed

merchant mariners available but not sailing. By 1991, this number is predicted to decline to 1,668, but those people could be used to offset some of the 1,638 sailor shortage that may occur with RRF activation. [Ref. 11:p. 17]

A way to prevent this loss of skills would be to make these non-sailing merchant officers a part of the MMR. Through Navy correspondence courses they would receive about the same Navy-oriented training that present MMR officers are receiving. Instead of two weeks active duty per year, they could be required to perform three weeks and receive refresher training and shipboard time at the various maritime academies under the cognizance of the Naval Science Departments at each academy. Upon the successful completion of the special MMR active duty training, the Coast Guard might issue a special waiver to extend the licenses of these officers. These extensions would make the licenses valid in the event the MMR officers were required aboard RRF ships in an emergency.

Recruitment costs for this would not increase over present MMR recruiting costs, since it could be done through existing MMR recruitment channels. Training facilities exist in the form of the maritime academies and the time is available during the schools' summer break periods. The Naval Science Departments are in place at all academies.

The RRF gains a pool of trained officers that will be available for use in the event of manpower shortages during

activation. Sailings will not be delayed because of manpower shortages and the troops requiring the RRF cargos will receive them when needed.

E. DRAFT DEFERMENT

During the Vietnam Conflict, the Selective Service System allowed draft deferments for those skills that were in short supply in the merchant marine. While this action did not induce a large number of people to join the maritime workforce, it did provide some relief for the merchant marine [Ref. 15:p. 29].

In six years, the entry level, unlicensed, seagoing workforce will have to increase significantly to replace the present workforce as it retires. Most entry-level personnel are between the ages of 18 and 25. If a draft were enacted, these are the people who would be drafted first.

The RRF will require at least 1,514 unskilled, unlicensed--entry level--personnel just to man the ships as they are activated to perform their surge shipping mission. Drafting these people could contribute to a critical manpower shortage for the RRF ships. On the other hand, leaving these people in the industry will ensure fewer delayed or shorthanded RRF sailings.

F. NATIONAL SERVICE

Periodically, proposals are offered to create a system of national service for young Americans. One form of national

service to consider is service in the merchant marine. Required training and service in the merchant marine would provide a skilled pool of available labor for RRF ships, should the need arise.

The costs of this program that would be carried by the government would be relatively low--mostly registration and processing costs. The cost to the maritime industry would be very high. Unlicensed training could be provided by the union schools that are already in existence. However, these schools would need to be greatly expanded to deal with the number of people who would need to be processed through them. A flood of labor into a market that is already experiencing job shortages will make unemployment in the market even worse than it already is.

G. MILITARIZE THE MERCHANT MARINE

One aspect of manpower shortages in the maritime industry is that of artificial shortages created by the workforce itself. The choice of whether or not to accept employment aboard a ship lies with the merchant mariner. The decision not to go to sea created serious manpower shortages for the British during World War II. The British government reacted with a measure that militarized the merchant marine and forced seamen to go back to sea. This measure helped alleviate much of the British manpower shortage problem for the remainder of the war.

The question was raised during the Vietnam Conflict as to how much of the manpower shortages for GAA vessels was due to seamen choosing not to go to sea [Ref. 15:p. 29]. When RRF ships are activated, there is the possibility of an artificial manpower shortage because of the reluctance on the part of industry workers to support the mission of the RRF ships. One way to avoid this type of shortage and insure that every available mariner is utilized if he or she is needed is to militarize the merchant marine in times of emergency.

The social costs of this alternative are great. This act removes the right of free choice from one segment of the population simply because of its profession. The risks to merchant mariners in a wartime scenario are often greater than those faced by soldiers in battle because merchant ships and RRF ships are not armed. Forcing people in civilian status into the position of an unarmed soldier is the main effect of this measure.

The idea of militarizing the merchant marine was investigated by Congress during the manpower shortages of World War II. The bill was never passed because payment of war bonuses and higher wages for merchant mariners helped to alleviate the seriousness of the problem. The maritime manpower shortages that occurred during Korea and Vietnam did not raise the question of militarization of the merchant marine to solve the problem. More importantly, since there

is no historical precedent in this country and there are Constitutional questions surrounding the action, this alternative would probably be treated as a matter of very last resort.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The employment situation for the U.S. seafarer is much like a roller coaster. Demand for maritime labor reaches its peak during wartime and begins a long decline that lasts until the next emergency. Each emergency pulls great numbers of people into the industry. These people are trained, and then their skills are wasted as the U.S. maritime industry returns to its normal low operating level. While the industry is in a labor oversupply situation, there are few new entrants to the field and thus the labor force becomes stagnant and declines. Members tend to reach retirement at about the same time and a younger workforce replaces the retiring one during the times of manpower shortages, beginning the roller coaster again. New personnel are entering the industry, but at a very slow rate because of the lack of available jobs.

At the beginning of World War II when there were 60,000 merchant seamen in the labor force, manpower shortages caused shipping delays. During Korea and Vietnam manpower shortages also caused shipping delays. In 1984, there were 34,000 seagoing mariners in the maritime workforce. In 1991, it is predicted that there will be 31,000 seafarers in the workforce. Assuming a 2:1 billet ratio, there will be at

least 41 RRF ships that will not be manned should they be activated at that time. Using the 1.6:1 ratio that will exist if the RRF is activated in 1991, there will be enough manpower available to man commercial and RRF ships; however, people will be required to be at sea constantly.

To offset the anticipated shortage of ships to carry military cargo during emergencies, the Department of Defense is building a RRF consisting of 116 ships. These ships are preserved with no crews until they are needed. They provide a stable sealift resource for the military. Unfortunately, these ships must have crews. Each RRF ship requires about 40 people to operate it. By 1991, 16 percent of the available workforce will be needed to man RRF ships.

In 1985, a simulated exercise successfully matched 3,000 people to RRF billets. The only problem with this matching was that it was all done on paper. Because of the enormous expense involved, people and billets were never joined in an operational setting. There is no way of knowing if the 3,000 people assigned during the exercise would have arrived to man the ships. Although the merchant marine has an impressive history of "rising to meet the needs of the Fourth Arm of Defense," most of the workforce that is available has been around since World War II and is still aging.

DOD and MARAD have instituted programs and studies to determine how many people will be needed to man the RRF and how to preserve people in the industry workforce. To date,

the effects of these moves on the industry cannot be completely evaluated because not enough time has passed since their inception. It is clear, however, that action must be taken to determine what workforce will be available to man the RRF ships.

B. RECOMMENDATIONS

Several actions may be taken to insure adequate manning of the RRF ships. The findings of this thesis support the following:

* The unions should be encouraged to develop manpower pooling agreements that would come into effect when the RRF ships are fully activated. This is the least expensive of all alternatives and will more effectively employ local workers and possibly prevent delayed or shorthanded sailings of RRF ships.

* The unions should be encouraged to develop and maintain manpower data bases to provide more effective utilization of manpower resources. This will provide certain knowledge about who is available and where they are available, nationwide, to crew RRF ships.

* The Navy should expand the MMR program to include those maritime academy graduates who do not find seagoing employment. This is a trained segment of the maritime industry that is being wasted and overlooked as a possible RRF manpower asset. These people can be used as a backup resource for RRF crews should anticipated manpower shortages occur.

* Draft deferment programs should be established and utilized for personnel in the merchant marine, if conditions require a reinstatement of the military draft. This will help to maintain the younger merchant marine workforce that will come into existence within the next 10 years.

* As the 600-ship Navy becomes more of a reality, the Navy might consider contract manning for their support ships. The loss of command and control of these vessels may have

to be considered a fair tradeoff for the uniformed manpower required to man the new Navy ships.

C. SUMMARY

There is no guarantee that any of these recommendations will prevent delayed or shorthanded sailings of RRF ships. However, they will provide a more accurate accounting of the manpower resources available, should the RRF be activated. These recommendations will also increase the number of standby resources that are available to the RRF if the need arises. Attempts by DOD to provide industry jobs will only help if the maritime industry begins to stabilize. U.S. maritime history raises some doubt that this will ever occur.

In light of the unavailability of the data that tells what resources are available and the disappointing responses from the unions, who have the most accurate data, it is recommended that the Navy give consideration to a more detailed effort to document and evaluate the true size and demographics of the maritime labor pool. A sure knowledge of <u>what</u> resources are available and <u>where</u> those resources can be found is the only real answer to the problem of manning the RRF ships.

APPENDIX A

LETTERS SENT TO GENERAL AGENTS AND REPLIES

LIST OF GENERAL AGENTS CONTACTED

American Foreign Steamship

*American President Lines, Inc.

Apex Marine Corporation

Crowley Towing & Transportation Company

Farrell Lines

*Interocean Management Corporation

*Keystone Shipping Company

Lykes Brothers Steamship Company, Inc.

Marine Transport Lines, Inc.

*Ogden Marine Incorporated

United States Lines, Inc.

*Responded as of December 1985

Mary T. Winger
129 Cypress Grove Court
Marina, CA 93933
October 9, 1985

Shipping Agent
Address
City, State, Zip

Dear Sirs:

I am a student at the Naval Post Graduate School in Monterey, California. As one of the requirements for my degree, I am writing a thesis on the availability of the U.S. merchant marine to man the ships of the Ready Reserve Force (RRF) should they be activated. I am hoping that you will provide me with information about the General Agency Agreement (GAA) ship(s) for which you are the agent.

What I am primarily interested in is whether you have any special provisions for manning the GAA ship(s) should they be required for an emergency? If so, would you please describe them? If not, do you foresee any problems with manning these extra ships?

I am also interested in any experiences you may have had manning ships during the Viet Nam Conflict. This is whether you had any GAA ships or not. Did you have problems obtaining skilled crews?

I do appreciate any help you can give me concerning these questions. If you have any questions, please call me. My home telephone number is (408) 384-1679. I can also be reached through the Administrative Sciences Curricular Office at (408) 646-2536. Again, thank you for your time.

Sincerely,

Mary T. Winger
LT USN

October 21, 1985

Lt. Mary T. Winger, USN
129 Cypress Grove Court
Marine, CA 93933

Lt. Winger:

I am writing in response to your letter of October 9, 1985.

We are presently general agents for five ships of the Ready Reserve Fleet. We have a pre-determined manning schedule that shows number, rating, wage rate, etc., including particulars necessary for determining pay rates, i.e., Gross Tonnage + Shaft Horsepower = Power Tonnage. Also shown is the class of ship, i.e., the PRESIDENT is Class A-1 Regular. The A-1 tells us she is 25001 to 35000 Power Tonnage; Regular tells us she is a regular operated ship as opposed to a fast turn ship.

Manning of our ships is done by contract as follows:

Masters, Mates & Pilots (MM&P) - Masters & Mates
American Radio Association (ARA) - Radio Operators
Sailors' Union of the Pacific (SUP) - Unlicensed Deck Personnel
Marine Staff Officers Assn. (MSO) - Pursers
Marine Engineers Beneficial Assn. (MEBA) - Licensed Engineers
Marine Firemen's Union (MFU) - Unlicensed Engine Dept. Personnel
Seafarers' International Union (AGLIW) - Stewards' Dept.

On occasion we have activated the GAA ships as directed by the Government, and this has included making voyages for cargo delivery, fleet exercises, etc. Thus far, we have had no problems with manning these ships as required. There could be a delay in manning if all ships were activated at one time. However, we do believe that such delay would be of short duration and would not affect all ships.

We manned a number of ships during the Viet Nam conflict, and were operated as directed by the Government. I don't recall any delays because of crew shortages. Delays were mostly the result of needed repairs or maintenance.

Sincerely,

INTEROCEAN MANAGEMENT CORPORATION
THREE PARKWAY · PHILA., PA. 19102 · (215) 569-4550
TWX: 710-670-0553 · TELEX: 831 460

30 October 1985

Lt. Mary T. Winger, USN
129 Cypress Grove Court
Marina, CA 93933

Dear Lt. Winger:

Interocean Management Corporation at present has three ships for which we are General Agents for the Maritime Administration, these being the SS KEYSTONE STATE and the SS GEM STATE, the first two auxiliary crane ships, and the USNS SOUTHERN CROSS which is a Military Logistics Support Force ship. All three of these vessels have unique identifiable missions where special training of seamen is essential. As such, the corporation has identified the need, and has worked closely with the officer and crew unions with which we have contracts insure that qualified and trained personnel are available on demand. Training programs have also been established to provide additional training to those personnel who would be assigned without appropriate backgrounds. In the course of two activations, these procedures have worked well, and the vessels have been able to sail on time and carry out their assigned missions. At this point in time, we do not foresee a problem in manning these particular vessels.

The Maritime Administration and the Department of the Navy, specifically OPNAV 42, are presently running a command post exercise called Breakout 85 which covers the activation of all the vessels presently in the Ready Reserve Force. The exercise started on the 21st of October and will end on 1 November. This exercise covers all aspects, on paper of course, of the activation of the RRF, including a compressed manning scenario carried out on the 22nd and 23rd at MARAD headquarters involving unions and the personnel staffs of the various General Agents. You may wish to contact Mr. Walter Lockland, of MARAD who is the Deputy Exercise Director. I'm sure he would be most willing to send you a copy of the CPX plan and also a copy of the final report which will be put together based on comments and constructive input from the various players. Your timing in requesting your information is quite good, as I'm sure much discussion will be generated when the results of this particular CPX becomes known.

During the Vietnam conflict, this company had no General Agency agreements with MARAD, however we did have several of our own ships trading in the vicinity of Vietnam and working with the Military Sealift Command. During that time frame, I cannot remember any problems obtaining skilled crews for those ships.

I hope this information will assist you in the writing of your thesis.

Sincerely,

CABLE ADDRESS
KEYSHIPCO

TELEPHONE 215-928-2800
TWX 710-670-7649
TELEX (WUI) 84-5327

KEYSTONE SHIPPING CO.
313 CHESTNUT STREET
PHILADELPHIA, PENNSYLVANIA 19106

October 24, 1985

Ms. Mary T. Winger
219 Cypress Grove Court
Marina, CA 93933

Dear Ms. Winger:

In response to your letter of October 9, 1985:

At this time certain of our personnel are actively engaged in the simulated manning of two vessels in the Ready Reserve Force. The operation is to take place in Washington from October 22, 1985 through October 25, 1985.

Basically the exercise consists of arranging for the breakout of the vessel from the Ready Reserve Force at Beaumont, Texas. We will simulate arrangements for tugs and pilots to tow the vessel from the Reserve Fleet to a specified shipyard for necessary repairs, etc., so that the vessel will be ready for sea-duty in approximately three and one half days.

During the shipyard period, we will simulate supplying bunkers, provisions and crew. The action taken will involve simulated contacts to suppliers of bunkers, stores, etc. and telephone calls to Deck Officers and to the Unions with whom we have Agreements. By way of explanation we have our own Agreement with our Deck Officers. We have Working Agreements with the Unions who supply our Engineers, Radio Officers and Unlicensed seamen and which call for those Officers and crew to be engaged through the hiring offices of their respective unions. We do have the right to select Chief Engineers and Chief Stewards provided they are union members. We have Working Agreements with the Marine Engineers Beneficial Association, the American Radio Association and the National Maritime Union of America.

Referring to your question about the Viet Nam conflict; we did operate GAA Dry Cargo vessels as well as United States Navy civilian-manned tankers along with our own fleet. We had no problems in manning those vessels.

We appreciate your interest and hope we have been helpful. If we can be of further assistance please do not hesitate to contact us.

Very truly yours,

KEYSTONE SHIPPING CO., Agent

OMI CORP. 280 PARK AVENUE, NEW YORK, N.Y. 10017 (212) 949-4500

October 18, 1985

Lt. Mary T. Winger
129 Cypress Grove Court
Marina, CA. 93933

Dear Lt. Winger:

We note your interest in the manning and activation of the Ready Reserve Fleet. You are fortunate that at the present moment, the Department of Transportation is conducting an exercise on this very subject. You should contact:

Mr. W. Lockland
U. S. Dept. of Transportation
Maritime Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

or, alternatively:

Information Spectrum Inc.
1745 S. Jefferson Davis Hwy.
Arlington, Va. 22202
Att: Mr. John S. Storm

I am sure they can supply all the information you require in about a months time.

Very truly yours,

OMI CORP.

W. A. G. Hogg
Naval Architect
Engineering Department

WAGH:tk

APPENDIX B

LETTERS SENT TO UNIONS AND REPLIES

LIST OF UNIONS CONTACTED

American Radio Association (ARA)

Associated Maritime Officers (AMO)

Marine Cooks and Stewards Union (MCS)

Marine Engineers Beneficial Association District 1 (MEBA 1)

Marine Engineers Beneficial Association District 2 (MEBA 2)

*Marine Firemen's Union (MFU)

*Marine Staff Officers (MSO)

Masters, Mates, and Pilots of America (MMP)

*National Maritime Union of America (NMU)

Radio Officers Union of the United Telegraph Workers Union (ROU)

Sailors' Union of the Pacific (SUP)

*Seafarers Internation Union of North America (SIU)

*Staff Officers Association of America (SOA)

*Responded as of December 1985.

Mary T. Winger
129 Cypress Grove Court
Marina, CA 93933
October 9, 1985

Name, President
Union Name
Address
City, State, Zip

Dear Mr. ( ):

I am a student at the Naval Post Graduate School in Monterey, California. As one of the requirements for my degree, I am writing a thesis on the availability of the U.S. merchant marine to man the ships of the Ready Reserve Force (RRF) should they be activated. I am hoping that you will provide me with information pertinent to your union.

My first question is, does your union have any special provisions for its manning of the General Agency Agreement (GAA) ships? These ships are managed by U.S. shipping agents with whom you have contracts. If so, would you please describe them.

My second question deals with your experiences during the Viet Nam war. Did you make any special efforts to ensure GAA ships had the required crews? If so, what were they and were there any problems that resulted from them? Did you have any problems providing manpower for all ships that required it?

Thirdly, I am interested in your union's outlook for the future. How many members do you currently have? What percentage of your members leave the union every year, and why? How many new people are you admitting to your union every year? Are members who leave easily replaced? Do you maintain data on past members who leave for reasons other than death or retirement? What is the average age of your members? Are women entering the field in any numbers? What training is available to your members to maintain and upgrade their skills? Do you have information concerning which of your members are also members of the Naval Reserve Forces?

If so, what percentage of your members are in the U.S. Naval Reserve?

I do appreciate any help you can give me concerning these questions. If you have any questions, please call me. My home telephone number is (408) 384-1679. I can also be reached through the Administrative Sciences Curricular Office at (408) 646-2536. Again, thank you for your time.

Sincerely,

Mary T. Winger

LT USN

Marine Firemen's Union
AFFILIATED WITH THE SEAFARERS INTERNATIONAL UNION OF N. A
AFL-CIO
240 Second Street
San Francisco, California 94105
(415) 362-4592
Dispatcher: (415) 362-7593
42

October 15, 1985

Lt. Mary T. Winger, USN
129 Cypress Grove Court
Marina, CA 93933

Dear Lt. Winger:

This is to acknowledge your letter of October 9, 1985 requesting information to assist you in writing a thesis on the ability of this Union to provide the necessary ratings to man the ships of the Ready Reserve Force should they be activated.

We recently received advance notice from the Maritime Administration of a simulated Ready Reserve Force mobilization exercise scheduled for October 22-24, 1985, at the Maritime Administration's Operations Center in Washington, D. C. The key objective of this exercise is to assess the availability of seafarers and the procedures to crew the 65 ships in today's Ready Reserve Force.

Our Union will have a representative in Washington to participate in this exercise. For a full report on the results of this exercise, we suggest you contact Mr. Arthur W. Friedberg, Director, Office of Maritime Labor & Training, Maritime Administration, 400 Seventh Street, S.W., Washington, D. C. 20590.

In an attempt to answer your questions, I will start out by stating that the Union does not have any special provisions to the manning of the General Agency Agreement (GAA) ships. At the present time, APL is the only steamship company under contract to this Union that is an operating agent for five vessels presently in Suisun Bay. We would not anticipate any problem providing the crews for these ships.

Our membership is presently declining, as it usually does in peace time. The Marine Firemen's Union, which represents unlicensed engine room personnel, has 520 active members--a 2 to 1 ratio of members to jobs. The present jobs are rotated after four months of employment aboard vessels.

Our experience in past conflicts, including the Viet Nam War, shows we had very few problems providing crews for the GAA ships when activated. It appears there is an abundance of people

with seamen's documents who show up when jobs are available. To a large degree, they come from other unlicensed unions.

After a period of employment, our training programs are available to upgrade their skills and endorsements. These training programs are jointly sponsored by the Pacific Maritime Association who represents the shipowners under contract.

Automation, new technology, larger ships, smaller crews, and bankruptcies due to the inability of companies to compete in the Pacific trades have all contributed to a tremendous decline in job opportunities. For these reasons, very few women have succeeded in gaining employment in the unlicensed engine department with companies under contract.

As to the Union's outlook for the future, we are optimistic. However, we feel the numbers will eventually dictate a merger of all unlicensed unions.

The average age of our members (approximately 56 years of age) shows quite an older membership. The members who leave usually go on pension. We do not keep records on members who leave for reasons other than retirement or death. To my knowledge, there are no members of the Naval Reserve Forces shipping as unlicensed engine room crew members.

I hope the above information is helpful to you in writing your thesis. Best wishes and good luck in your future endeavors.

Very truly [illegible]

Marine Firemen's Union
AFFILIATED WITH THE SEAFARERS INTERNATIONAL UNION OF N. A.
AFL-CIO

BRANCHES
Seattle Washington
San Pedro California
Honolulu Hawaii

240 Second Street
San Francisco, California 94105
(415) 362-4592
Dispatcher: (415) 362-7593

October 16, 1985

Lt. Mary T. Winger, USN
129 Cypress Grove Court
Marina, CA 93933

Dear Lt. Winger:

In response to your letter of October 9 and as a follow up to my letter of October 15, 1985, I attended a briefing today conducted by the Maritime Administration representatives in San Francisco.

I am enclosing a copy of the "Command Post Exercise Plan Breakout-85 for Activation of Ready Reserve Force" that was distributed at the briefing. I hope it will assist you in preparing your thesis.

HEADQUARTERS
450 HARRISON STREET
SAN FRANCISCO, CALIF. 94105
421-8603

SEAFARERS INTERNATIONA
UNION OF NORTH
AMERICA, AFL-CIO

November 18, 1985

Mary T. Winger
129 Cypress Grove Court
Marina, Ca. 93933

Dear Ms. Winger:

Your letter of October 9th received, sorry for the delay in answering you.

1 - We have a contract with American President Lines, Ltd. for its G.A.A. Ships.

2 - We had to recruit people during the Viet Nam Sealift, but managed to provide sufficient manpower.

3 - MSO's outlook for the future is that of steady attrition of the few remaining jobs. There are not new people entering the field as their are ample experienced people available. I have no knowledge of any member who is in the Naval Reserve.

Again, sorry for the delay in answering, I hope I didn't cause you any inconvenience. If you have any further questions, call me at (415) 421-8603.

National Maritime Union of America

Affiliated with: The American Federation of Labor and Congress of Industrial Organizations
AFL-CIO Maritime Committee
International Transportworkers Federation

National Headquarters:
346 West 17th Street, New York, N.Y. [illegible]
Cable Address: ENEMU, N.Y.

November 7, 1985

Ms. Mary T. Winger
129 Cypress Grove Court
Marina, CA 93933

Dear Ms. Winger:

Your recent letter to Mr. Shannon Wall has been forwarded to me for response.

1. The NMU does not have any special provisions for manning GAA ships. We man these vessels in accordance with Government requirements provided such requirements are deemed adequate by us. Most of our deep-sea contracted companies have operating agreements covering GAA ships. This would include Farrell Lines, Marine Transport Lines, American Foreign Steamship, U.S. Lines, Keystone Shipping, and Lykes Bros. Steamship.

2. During the Vietnam War, GAA ships were manned in the same manner as commercial vessels, by means of the principal of rotary shipping through the hiring halls. For the most part, we did not encounter any problems providing for manpower, although on rare occasions a vessel might have sailed shorthanded.

3. The NMU's Deep-Sea membership is approximately 10,000. This figure does not include membership in our other marine divisions, Government operations or the growing shoreside sector. Membership replacement is not a problem in the Deep Sea division. Average Deep-Sea membership age is 52 years old. A small percentage of this membership is female. The NMU does operate the NMU Upgrading and Retraining School for the purpose of developing skilled ratings. We do not have data reflecting the percentage of members who are in the U.S. Naval Reserves.

I hope you will find the above information useful. Please contact me if I could be of further assistance.

Sincerely,

RB:vsd

Richard Berger
Associate Director, Research Dept.

The Seafarers International Union
OF NORTH AMERICA • AFL-CIO
5201 Auth Way, Camp Springs, Maryland 20746
301-899-0675

FRANK DROZAK
President

November 6, 1985

Lt. Mary T. Winger
United States Navy
Superintendent (Code 36)
Naval Postgraduate School
Monterey, California 93943

Dear Lt. Winger:

Thank you for your recent letter regarding the role of the U.S. merchant marine in crewing the vessels of the Ready Reserve Fleet (RRF). I am pleased to note your interest in this critical matter which is of fundamental importance to not only the Seafarers International Union but to the overall defensive capability of our national waterborne military presence.

The Seafarers International Union is fully committed to the concept and development of the RRF defense initiative. As you noted in your letter, the SIU has contractual arrangements with designated general agents responsible for selected vessels of the RRF. These contracts provide for the crewing of one or more RRF vessels in instances of both sustained activation as well as for the purposes of conducting mobilization exercises. The SIU has devoted considerable efforts to tailor our contracts in accordance with military objectives. For example, despite the fact that we have not had a general strike since 1946, all of our military contracts contain a no-strike provision. Furthermore, the SIU has incorporated innovative contract changes which have resulted in a 30 percent cost reduction. We have pared back our wage scales to 1981/1982 levels, significantly reduced fringe benefit contributions, and have eliminated special compensation provisions for cargo handling activities. Without question, the SIU has a vested interest in the successful implementation of our commercially crewed military service contracts. The SIU is confident of our ability to satisfy stated defense requirements, and we take great pride in our record of service in the field of military support activity.

The U.S. merchant marine has always lived up to its calling as the Fourth Arm of Defense. During the Vietnam conflict, civilian-crewed vessels were always available to provide our

combat troops with critical logistical support even under the most challenging circumstances. Our record of performance in the Vietnam conflict bears impressive testament to the commitment of the U.S. merchant marine to enhancing the defensive integrity of our nation.

The SIU, despite the current depression in the maritime industry, remains firmly optimistic about the future of the U.S. merchant marine. I feel that, from an economic as well as national defense perspective, there will always be a need for a strong, skilled U.S. seafaring capability. Our commitment to the future is abundantly evident in the substantial training facility we have constructed at the Harry Lundeberg School of Seamanship in Piney Point, Maryland. The Harry Lundeberg School of Seamanship possesses a state-of-the-art physical plant which includes a prototype, fully operational crane; an advanced, computerized simulator; a comprehensive library; academic programs for G.E.D. and associate degrees, as well as a fleet of operating tugs and ships. The SIU has worked in close consultation with the branches of the armed forces in the development of a curriculum package specifically designed to satisfy military objectives. Given the excellent reputation of the school, there is no shortage of eager applicants. However, due to the SIU policy of securing a seafaring position for each graduate of the school, we have been forced to severly restrict the size of our entering classes. Hopefully, once the industry rebounds from its current depressed state, we can once again increase the number of students entering into the school program.

Finally, in reference to your question concerning the size and composition of the SIU membership, we have approximately 9,000 seafaring members at the moment. Over the past few years, we have observed an increase in the number of female seafarers, although our membership is still predominately male. Due to the fact that, by and large, the SIU represents the unlicensed crew, only a small number of our members are in the U.S. Naval Reserve.

I hope the foregoing will be of some value to you in the drafting of your thesis paper. Once again, thank you for your interest in our activities in support of our nation's defense.

Sincerely,

Frank Drozak
President

Staff Officers' Association of America

95 RIVER STREET • 4th FLOOR • HOBOKEN, NEW JERSEY 07030 • (201) 798-0200

D. E. STEVENS, President KENNETH E. THOMPSON, Vice-President

GERARD F. DURAND, Secretary-Treasurer

December 12, 1985

Mary T. Winger
129 Cypress Grove Court
Marina, Ca. 93933

Dear Ms. Winger,

Thank you for your letter of October 9, 1985.

I regret to say that the SOA did not get a contract in June. As of January 31st, we will be out of business.

Thank you for your interest.

Fraternally,

Gerard F. Durand
Secretary-Treasurer

GFD:jk

APPENDIX C

ABBREVIATIONS AND GLOSSARY

ABS	American Bureau of Shipping
CPX	Command Post Exercise
DOD	Department of Defense
GAA	Genral Agency Agreement
MARAD	Maritime Administration
MMR	Merchant Marine Reserve
MPF	Maritime Prepositioning Force
MSC	MIlitary Sealift Command
NDRF	National Defense Reserve Fleet
NMU	National Maritime Union
NTPF	Near Term Prepositioning Force
RRF	Ready Reserve Force
SIU	Seamen's International Union
USCG	U.S. Coast Guard
Flag	Country of registry of a ship
Ship's Articles	Contract signed by all sailors for a single voyage of any ship

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22. Telephone interview with Mr. Christopher Kruza, Maritime Labor and Training Office, U.S. Maritime Administration, Washington, D.C., November 5, 1985.

23. Telephone interview with Mr. Arthur Friedberg, Director Maritime Labor and Training Office, U.S. Maritime Administration, Washington, D.C., December 11, 1985.

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Lafayette, Indiana 47905

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